DOCUMENT RESUME

ED 208 644 FL 012 512

AUTHOR Golub, Lester S.; Sweeney, Gladys M.
TITLE Improving Academic Performance in a Bilingual Education Classroom.
PUB DATE May 81
NOTE 14p.; Paper presented at the Annual International Bilingual Bicultural Education Conference (10th, Boston, MA, May 23-30, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Behavior Modification; *Bilingual Students; *Classroom Environment; Intermediate Grades; Program Effectiveness; *Reinforcement; Teacher Education; Teaching Methods
IDENTIFIERS *Bilingual Programs

ABSTRACT

The purpose of this study is twofold. First, it evaluates the effectiveness of token economy programs in increasing academic performance in a bilingual education classroom setting. Second, it attempts to train the teacher in the basic behavior modification principles and assist her/him in the delivery of appropriate and consistent reinforcement contingencies. The token economy system was developed to strengthen completion and accuracy of the students' performance. In this system, children earn, for their efforts, recognition points that may be exchanged for a variety of activities, privileges, and priorities. Students may also lose points by misbehaving. The results of a study indicate that reinforcement of academic performance increased the percentage of correct answers by a group of students. Evidence also shows that decreasing disruptive activities in the classroom does not necessarily increase academic performance. By focusing on academic performance, the teacher's efforts are enhanced and the student's potentials are optimized. A list of daily and weekly reinforcements is included. (JK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED208644

Improving Academic Performance in a Bilingual Education Classroom

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Lester S. Golub
Gladys M. Sweeney
The Pennsylvania State University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Lester Golub
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Token economy programs have proven to be among the most effective behavior modification techniques for classroom management. A token economy program has been defined by Kazdin (1975) as "a reinforcement system where tokens are earned for a variety of behaviors and purchase a variety of back-up reinforcers." It represents a system analogous to a national economy where money serves as a medium of exchange and can be earned and spent in several ways.

Reinforcement is a very important concept in a token system and it refers to the increase in the frequency of a response when the response is immediately followed by a particular consequence (Skinner, 1953). Thus, the use of reinforcement is crucial in altering behavior. Two important principles regarding reinforcement should be clarified. First, when a behavior is positively reinforced it tends to increase in frequency (Skinner, 1953)

FL 012 512

and second, when a behavior ceases to be reinforced, it tends to extinguish (Kazdin, 1975).

A token economy program is a systematic and consistent application of the behavior modification principles already described (positive reinforcement and extinction). The teacher is trained to apply reinforcers to a carefully defined behavior and to apply them regularly, in a similar fashion each time and with a particular goal in mind.

The purpose of this study is to evaluate the effectiveness of a token economy program in increasing academic performance in a bilingual education classroom setting as well as to train the teacher in the basic behavior modification principles and assist him/her in the delivery of appropriate and consistent reinforcement contingencies.

Procedures

Subjects

Four subjects were selected from a fifth grade class in a bilingual/bicultural education classroom in Lancaster, Pennsylvania. The class received daily tests in Social Sciences and English. Questions were about the material taught by the teacher on these subject matters. Percentage of correct responses were recorded in absence of reinforcements and during the token economy program.

Description of the token economy program

To strengthen completion and accuracy of the students' performance, a token economy system was developed. This system enabled the child to earn recognition (points) for his efforts. Points could be exchanged for a wide variety of activities, privileges and priorities. Prices and performance requirements were explicitly posted throughout the classroom (Table 1).

Each child was given paper money indicating the amount of points earned. Table 1 indicates the list of reinforcements used.

Insert Table 1 about here

A response cost strategy was used, that is, students could lose points earned by misbehaving. Disruptive behavior was defined similarly to Becker, Madsen, Arnold and Thomas (1967):

Out-of-seat behavior: defined as leaving the seat and/or seated position during a lesson without teacher's permission. It includes standing, running, and walking around.

Noise-producing behavior: audible vocally or manually produced sounds made during a time in which students

should be working or listening. It includes talking out loud to self or others, calling out to teacher or other pupils, singing, whistling, humming, talking while raising one's hand or making vocal noises like howls, cat calls, animal sounds, etc. It also includes tapping, clapping, pounding objects, snapping fingers and stamping feet.

Gross-motor behavior: engaging in any motor behavior that interferes with another student's studying any physical contact with another student, his desk, or any objects on it. It includes hitting, picking, grabbing another's book, tearing up another's paper, turning to the person behind, looking to the rear of the room when the teacher is in the front of the class, and throwing objects.

All students in the class participated in the reinforcement program. Data is presented for four of the target students.

Results

Reinforcement of academic performance increased the percentage of correct answers for the target students. Figure 1 shows the percentage of correct answers in the absence of a reinforcement program, and during the token economy program. As can be seen the mean percent of

academic accuracy during the non-reward phase was approximately 25 percent. During the reward phase it increased to approximately 75 percent. Table 2 presents the means of the four students during the non-reward phase and during the token reinforcement program.

Insert Figure 1 about here

Insert Table 2 about here

Discussion

The results indicate that a systematic reinforcement program like the token economy system is effective in improving academic performance as measured by the percentage of answers in Social Science and English tests.

The emphasis of this study was on academic performance and not on disruptive behavior. This provides a positive approach to education; that is, a focus on academic objectives, rather than on undesireable behavior. While disruptive behavior and discipline in the classroom are the major, and often the immediate objectives of the classroom teacher, the evidence has showed that decreasing

disruption does not necessarily increase academic performance (Ferritor, Buckhold, Hamblin, Smith, 1972). By focusing on the academic performance the teacher's efforts are enhanced and the students' potentials are optimized.

More research is needed to determine the effect that an improved academic performance has on disruptive behavior. It would be very interesting to test a similar reinforcement program in a bilingual classroom, using English reading tests as a measure of performance. It is possible that a program like this could indeed do both, eliminate disruptive behavior and, accelerate the learning rate of the English language.

References

Ayllon, T., Layaman, D. & Burke, S. Disruptive behavior and reinforcement of academic performance. The Psychological Record, 1972, 22, 315-323.

Ayllon, T., Roberts, M.D. Eliminating discipline problems by strengthening academic performance. Journal of Applied Behavior Analysis, 1974, 7, 71-76.

Barrish, H.H., Saunders, M., & Wolf, M.M. Good behavior game: effects of individual contingencies for group consequences on disruptive behavior in a classroom. Journal of Applied Behavior Analysis, 1969, 2, 119-124.

Becker, W.C. An empirical basis for change in education. Chicago, Palo Alto, Toronto, Henley-on-Thames, Sydney: Science Research Associates, Inc. 1971.

Becker, W.C., Madsen, C.H. Jr., Arnold, C.R., & Thomas, D.R., 1967. The contingent use of teacher attention and praise in reducing classroom behavior problems. Journal of Special Education, 1, 297-307.

Chadwick, B.A., & Day, R.C. Systematic reinforcement of academic performance of underachieving students. Journal of Applied Behavior Analysis, 1971, 4, 311-319.

Christensen, D.E. Effects of combining methylphenidate and a classroom token system in modifying hyperactive

behavior. American Journal of Mental Deficiency, 1975, 80, 266-276.

Ferritor, D.E., Buckholdt, D., Hamblin, R.L., & Smith, L. The noneffects of contingent reinforcement for attending behavior on work accomplished. Journal of Applied Behavior Analysis, 1972, 5, 7-17.

Glynn, E.L Classroom applications of self-determined reinforcement. Journal of Applied Behavior Analysis, 1970, 3, 123-132.

Hall, R.V., Dunlap, A., Clark, R. Effects of teacher attention and a token reinforcement system in a Junior High School special education class. Exceptional Children, 1970, 36, 341-349.

Harris, V.W., & Sherman, J.A. Homework assignments, consequences and classroom performance in social studies and mathematics. Journal of Applied Behavior Analysis.

Kirby, F.D., & Shields, F. Modification of arithmetic response rate and attending behavior in a seventh-grade student. Journal of Applied Behavior Analysis, 1972, 5, 79-84.

Kirschner, N.M., & Levin, L. A direct school intervention program for the modification of aggressive behavior. Psychology in the Schools, 1975, 12, 202-208.

Knapczyk, D.R., & Livingston, G. Self-recording and student teacher supervision: variables within a token economy structure. Journal of Applied Behavior Analysis, 1973, 6, 481-486.

Lovitt, T.D., & Curtis, K.A. Academic response rate as a function of teacher and self-imposed contingencies. Journal of Applied Behavior Analysis, 1969, 2,

Marholin, D. II., Steinman, W.M., McInnis, E.T., & Head, T.B. The effect of a teacher's presence on the classroom behavior of conduct-problem children. Journal of Abnormal Child Psychology, 1975, 3, 11-25.

McKenzie, H.S., Clark, M., Wolf, M.M. Kothera R., & Benson, C. Behavior modification of children with learning disabilities using grades as tokens and allowances as back-up reinforcers, Exceptional Children, 1968, 34, 754-752.

Medland, M.B., & Stachnik, T.J. Good-behavior game: a replication and systematic analysis. Journal of Applied Behavior Analysis, 1972, 5, 45-51.

O'Leary, K.D., Becker, W.C., Evans, M.B., & Saudargas, R.A. A token reinforcement program in a public school: A replication and systematic analysis. Journal of Applied Behavior Analysis, 1969, 2, 3-13.

Rosenfeld, G.W. Some effects of reinforcement on achievement and behavior in a regular classroom, Journal of Educational Psychology, 1972, 63, 189-193.

Sulzer, B., Hunt, S., Ashby, E., Koniarski, C. & Krams, M. Increasing rate and percentage correct in reading and spelling in a fifth grade public school class of slow readers by means of a token system. In E. Ramp & B.L. Hopkins (Eds.), A new direction for education: Behavior analysis, 1971, Lawrence: The University of Kansas, 1971.

Winett, R.A., & Roach, A.M. The effects of reinforcing academic performance on social behavior: a brief report. The Psychological Record, 1973, 23, 391-396.

Winett, R.A., & Winkler, R.C. Current behavior modification in the classroom; Be still, be quiet, be docile. Journal of Applied Behavior Analysis, 1972, 5, 499-504.

Wolf, M.M., Giles, D.K., & Hall, R.V. Experiments with token reinforcement in a remedial classroom. Behavior Research and Therapy, 1968, 6, 51-64.

Table 1

Reinforcements
Daily
1. Opportunity to play an electronic game
2. Opportunity to feed the fish in the aquarium
3. Become an assistant teacher
4. Get new pencils
5. Opportunity to decorate the bulletin board
6. Access to self-chosen academic materials
7. Opportunity to work with the teacher's aid
Weekly
1. Have a good work letter sent to parents
2. Become the classroom helper for one week
3. Opportunity to have a class picnic

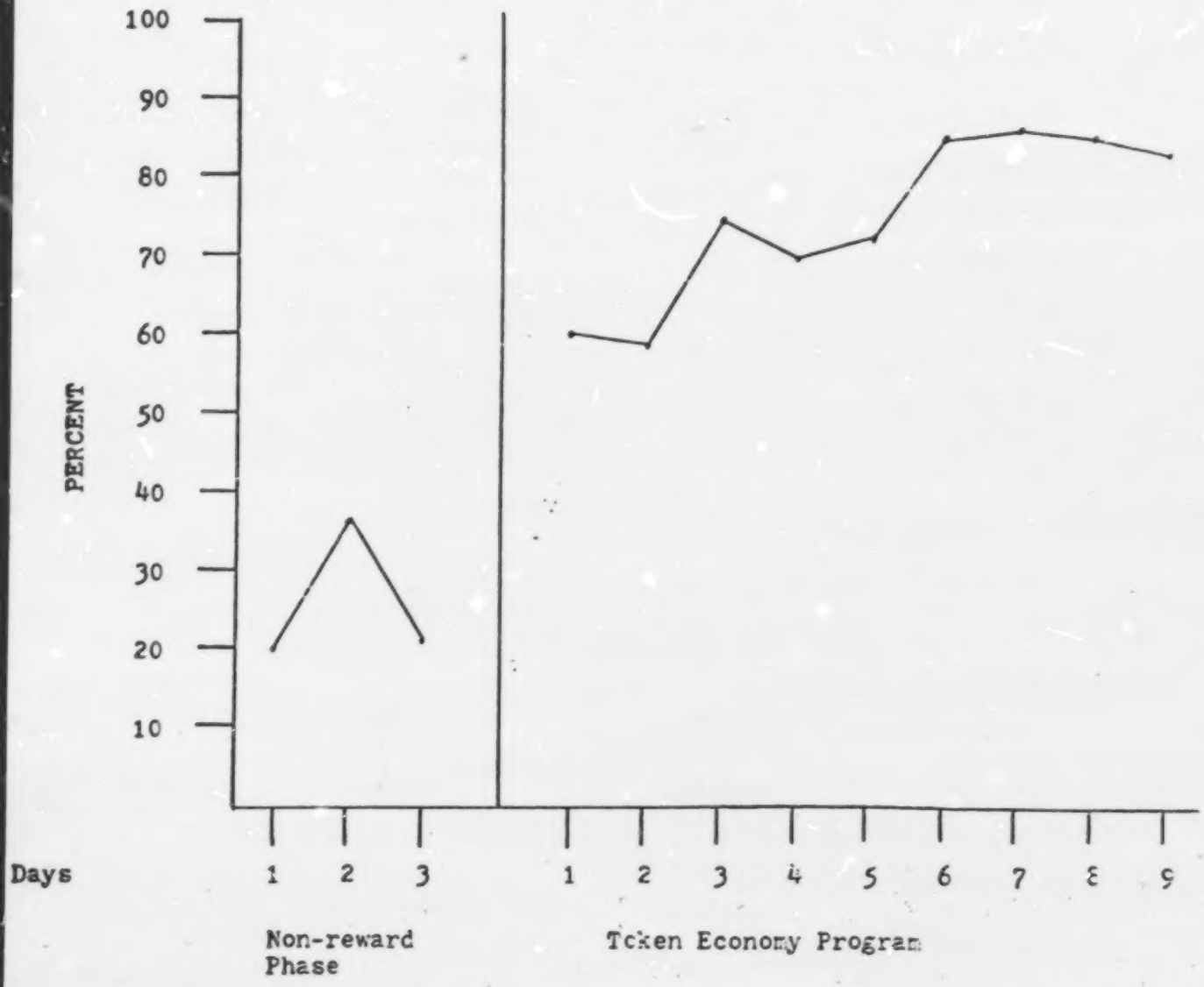

Fig. 1. Mean per cent correct on daily tests for the four target students

Table 2

Percentage of correct answers in tests for four students
Non-reward Phase

Subjects	Days		
	1	2	3
1	30	40	30
2	13	43	10
3	15	13	30
4	24	50	15
X	20.5	36.5	21.25

Percentage of correct answers in tests for four students
Token Economy Program

Subjects	Days								
	1	2	3	4	5	6	7	8	9
1	40	60	46	50	72	75	80	80	90
2	90	56	93	70	87	100	100	90	95
3	70	46	80	70	62	90	70	90	75
4	40	73	80	88	70	76	95	80	72
X	60	58.75	74.75	69.5	72.75	85.25	85	85	83